

signal-detected position on the recording medium to a position on the recording medium distant from there at least by a distance corresponding to the predetermined interval, when the special detected signal is detected while the executing device is moved from the retrieval starting position to the predicted position, and further moving the executing device to the predicted position, from a position of the executing device after the above further moving used as the retrieval starting position, so as to check whether the special detected signal is detected or not. In addition, the retrieving device regards the setting area adjacent to the setting area where the special detected signal detected last is recorded as the non-used setting area, when none of the special detected signal is detected while the executing device is moved from the retrieval starting position to the predicted position.

According to this aspect, since a non-used setting area is detected based on the special detected signal while repeating the transition of the executing device from the retrieval starting position to the predicted position and the update of the retrieval starting position, it is possible to detect the non-used setting area accurately.

In further aspect of the present invention, the recording parameter is intensity of an optical beam for use in the information recording.

According to this aspect, use of a non-used setting area enables the accurate setting of the intensity of the recording optical beam.

In further aspect of the present invention, the apparatus is further provided with a recording device for executing the information recording by use of the set recording parameter.

According to this aspect, use of the accurately-set recording parameter enables the accurate and assured information recording.

The above object of the present invention can be achieved by a parameter setting method of the present invention for setting a recording parameter for use in optical information recording on a recording medium, using any one of a plurality of setting areas previously provided on the recording medium. The method is provided with: a checking process for checking whether a special detected signal is optically detected or not from the setting areas; a retrieving process for retrieving a non-used area that is the setting area where no special detected signal is detected, of the setting areas, based on the check result in the checking process; a mark signal recording process for optically recording a mark signal for obtaining the special detected signal optically, in the detected non-used setting area; a setting signal recording process for recording a setting signal for setting the recording parameter, at least, in the non-used setting area excluding an area where the mark signal is recorded; and a setting process for setting the recording parameter by optically detecting the recorded setting signal.

According to the present invention, since a non-used setting area is retrieved by referring to the special detected signal, so to record the mark signal and the setting signal and the recording parameter is set by use of this recorded setting signal, it is possible to retrieve the non-used setting area accurately and set the recording parameter accurately by use of this. Therefore use of the accurately-set recording parameter enables the accurate and assured information recording.

In one aspect of the present invention, in the mark signal recording process, the mark signal is recorded at a position

detected prior to the setting signal recorded in the non-used setting area.

According to this aspect, since the mark signal is recorded at a position detected prior to the setting signal, the accurate detection of the first detected position in the setting area enables accurate detection of a non-used setting area.

In another aspect of the present invention, in the mark signal recording process, the recording of the mark signal is repeated at a predetermined interval during the recording of the setting signal.

According to this aspect, since the mark signal is recorded at a predetermined interval during recording the setting signal, it is possible to prevent from a detection mistake of a non-used setting area caused by detecting no special setting signal for a long time.

In further aspect of the present invention, the checking process is further provided with: a position retrieving process for retrieving a predicted position of the setting area on the recording medium where the special detected signal is to be optically detected; a first moving process for moving an executing device for detecting the setting signal and the special detected signal, from the retrieved predicted position, to a retrieval starting position on the recording medium distant from there at least by a distance corresponding to the predetermined interval; and a second moving process for repeating an operation of further moving the executing device again from the special detected signal-detected position on the recording medium to a position on the recording medium distant from there at least by a distance corresponding to the predetermined interval, when the special detected signal is detected while the executing device is moved from the retrieval